

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A network system for interconnecting a set of packet-switching network elements,
the network system comprising a set of nodes interface units, each node configured to interface unit interfacing with one of the packet-switching network elements interconnected by the network system and providing a connection of potentially variable capacity to the other nodes interface units of the network system;
each one of the connections configured to transport capable of transporting data from its source node interface unit to its destination node interface unit and having an associated capacity and traffic load;
the capacity of each connection controlled from its destination node interface unit based at least in part on the traffic loads associated with the connections configured to transport capable of transporting data to that destination node interface unit.
2. (Currently amended) The network system of claim 1 wherein the system is configured to set the capacity of a connection to zero when the connection has no traffic load associated therewith and traffic loads associated with other connections to the same destination node cumulatively exceed a predefined limit can be zero for a period of time.
3. (Currently amended) The network system of claim 1 wherein the traffic loads and the capacities associated with the connections between the set of nodes interface units are dynamic variables.
4. (Original) The network system of claim 1 where the capacities of the connections are cyclically optimized with a cycle time that is constant during regular system operation.
5. (Currently amended) The network system of claim 1 wherein a number, up to all, of the nodes interface units are physically located at a single physical node or platform[[],] or are attached to a single the same chassis.

6. (Currently amended) The network system of claim 1 wherein one or more of the nodes interface units are integrated into their associated with the packet-switching network elements they interface with.

7. (Currently amended) The network system of claim 1 wherein the system is that can be at least in part a sub-network of a multi-use or public network, with additional network elements, which do not actively participate in the operation of the thus created sub-network, potentially in pass-through mode either in between of either the nodes interface units or in between [[of]] the packet-switching network elements and the nodes interface units of the sub-network.

8. (Currently amended) The network system of claim 1 wherein one or more of the packet-switching network elements comprises a is another network system accordant to the definition of as defined in claim 1, and wherein these claim 1 networks interface with each other through regular interface units, thus allowing to cluster a number of claim 1 networks together, potentially with a hierarchical architecture where one claim 1 network serves as an interconnect network among a number of claim 1 networks, thereby contributing to network scalability.

9-20. (Canceled)